

1. (Currently Amended) A Method for motion-vector-aided interpolation of a pixel ( $P_x$ ) of an intermediate image lying between two input images, the method comprising:

selecting a first pixel from the first input image (A1) of a first pixel and assigning (P0)  
~~to which a first video information value (L0) is assigned to the first pixel, using a first motion~~  
~~vector (vec1);~~

\_\_\_\_\_ and selecting a second pixel from the second input image (A2) of a second pixel and  
assigning (P1) to which a second video information value (L1) is assigned to the second pixel,  
 using the first motion vector (~~vec1~~);

selecting a third pixel from the first input image (A1) of a third pixel and assigning (P2)  
~~to which a third video information value (L2) is assigned to the third pixel, using a second motion~~  
~~vector (vec2); and~~

\_\_\_\_\_ selecting a fourth pixel from the second input image (A2) of a fourth pixel (P3) and  
assigning to which a fourth video information value (L3) is assigned to the fourth pixel using the  
 second motion vector (~~vec2~~);

determining of an a first interval specified by the first video information value and the  
second video information value (L0, L1) or an a second interval specified by the third video  
information value and the fourth video information value (L2, L3); and

mixing of the video information values (L0, L1, L2, L3) by multiplying the first video  
information value (L0) by a first weighting factor (k0), the second video information value (L1)  
by a second weighting factor (k1), the third video information value (L2) by a third weighting  
factor (k2), and the fourth video information value (L3) by a fourth weighting factor (k3) and  
adding the weighted video information values so obtained in order to obtain a video information

value ( ~~$L_x$~~ ) of the pixel ( ~~$P_x$~~ ) of the intermediate image, the weighting factors ( ~~$k_0, k_1, k_2, k_3$~~ ) being chosen such that this the video information value of the pixel of the intermediate image ( ~~$L_x$~~ ) lies within the determined first or second intervals ~~determined~~.

2. (Currently Amended) The Mmethod of according to claim 1, wherein a first interval given by the first video information value and the second video information value ( $L_0, L_1$ ) and a second interval given by the third video information value and the fourth video information value ( $L_2, L_3$ ) are determined, further comprising the step of selecting the first, second, third and fourth weighting factors based on the one of the first and second determined the intervals that whose span of interval bounds is smaller in absolute value being used in the selection of the weighting factors ( $k_0, k_1, k_2, k_3$ ).

3. (Currently Amended) The Mmethod of according to claim 12, further comprising the step of equally weighting wherein the first video information value ( $L_0$ ) and the second video information value ( $L_1$ ) are each equally weighted.

4. (Currently Amended) The Mmethod of according to claim 13, further comprising the step of equally weighting wherein the third video information value ( $L_2$ ) and the fourth video information value ( $L_3$ ) are each equally weighted.

5. (Currently Amended) The Mmethod of according to claim 13, wherein the second motion vector comprises is a zero vector.

6. (Currently Amended) The Mmethod of according to claim 1, further comprising the steps of:

generating wherein first a first intermediate value (M01) is generated by mixing the first video information value and the second video information value;

generating (L0, L1) and a second intermediate value (M23) is generated by mixing the third video information value and the fourth video information value (L2, L3); and

weighting and the first and second intermediate values signals (M01, M23) are weighted using a weighting factor (k0123) in order to obtain the video information value (Lx) of the pixel (Px) of the intermediate image.

7. (Currently Amended) The Mmethod of according to claim 6, further comprising the steps of:

equally weighting wherein the first video information value and the second video information value (L0, L1) are equally weighted in the generation of during the step of generating the first intermediate value; and

equally weighting (M01) and wherein the third video information value and the fourth video information value (L2, L3) are equally weighted in the generation of during the step of generating the second intermediate value (M23).

8. (Currently Amended) The Mmethod of according to claim 7, further comprising the step of selecting wherein one of the first intermediate value (M01) and or the second intermediate value (M23) is selected as the interpolated video information value of the pixel of the intermediate image (Lx) depending on the location of one of the two first and second

intermediate values (~~M01; M23~~) relative to the determined first and second intervals ~~bounds~~ (~~L0, L1~~).

9. (Currently Amended) The Mmethod of according to claim 8, wherein the step of selecting one of the first and second intermediate values (~~M01; M23~~) is selected that is selects one of the first and second intermediate values that is within one of the first and second determined intervals ~~formed by the video information values (~~L0, L1; L2, L3~~) defining the interval if the other intermediate value (~~M23; M01~~) lies outside this interval and wherein the other intermediate value (~~M23; M01~~) is selected otherwise.~~

10. (Currently Amended) The Mmethod of according to claim 1, further comprising the steps of:

determining ~~wherein~~ a first interpolated video information value ~~is determined~~ using the first determined ~~interval formed by the first video information value and the second video information value (~~L0, L1~~) and;~~

determining a second interpolated video information value ~~is determined~~ using the second determined ~~interval formed by the third video information value and the fourth video information value;~~ and

mixing ~~wherein the interpolated video information value (~~Lx~~) of a pixel of the intermediate image is formed by mixing the first interpolated video information value and the second interpolated video information value to generate the video information value of the pixel of the intermediate image.~~

11. (Currently Amended) ~~The Method of according to claim 10, wherein the first and second interpolated video information values are equally weighted in the formation of the interpolated video information value ( $Lx$ ).~~

12. (New) Apparatus for motion-vector-aided interpolation of a pixel of an intermediate image lying between two input images, the apparatus comprising:

means for selecting a first pixel from the first input image and assigning a first video information value to the first pixel;

means for selecting a second pixel from the second input image and assigning a second video information value to the second pixel using the first motion vector;

means for selecting a third pixel from the first input image and assigning a third video information value to the third pixel using a second motion vector;

means for selecting a fourth pixel from the second input image and assigning a fourth video information value to the fourth pixel using the second motion vector;

means for determining a first interval specified by the first video information value and the second video information value or a second interval specified by the third video information value and the fourth video information value; and

means for mixing the video information values by multiplying the first video information value by a first weighting factor, the second video information value by a second weighting factor, the third video information value by a third weighting factor, and the fourth video information value by a fourth weighting factor and adding the weighted video information values to obtain a video information value of the pixel of the intermediate image, the weighting factors

being chosen such that the video information value of the pixel of the intermediate image lies within the determined first or second intervals.

13. (New) The apparatus of claim 12, further comprising means for selecting the first, second, third and fourth weighting factors based on the one of the first and second determined intervals that is smaller in absolute value.

14. (New) The apparatus of claim 12, further comprising means for equally weighting the first video information value and the second video information value.

15. (New) The apparatus of claim 12, further comprising means for equally weighting the third video information value and the fourth video information value.

16. (New) The apparatus of claim 12, further comprising:

means for generating a first intermediate value by mixing the first video information value and the second video information value;

means for generating a second intermediate value by mixing the third video information value and the fourth video information value; and

means for weighting the first and second intermediate values using a weighting factor to obtain the video information value of the pixel of the intermediate image.

17. (New) The apparatus of claim 16, further comprising:

means for equally weighting the first video information value and the second video information value during the step of generating the first intermediate value; and

means for equally weighting the third video information value and the fourth video information value during the step of generating the second intermediate value.

18. (New) The apparatus of claim 17, further comprising means for selecting one of the first intermediate value and the second intermediate value as the video information value of the pixel of the intermediate image depending on the location of the first and second intermediate values relative to the determined first and second intervals.

19. (New) The apparatus of claim 12, further comprising:

means for determining a first interpolated video information value using the first determined interval;

means for determining a second interpolated video information value using the second determined interval; and

means for mixing the first interpolated video information value and the second interpolated video information value to generate the video information value of the pixel of the intermediate image.